

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Original) An image processing apparatus comprising:

input means for inputting an image of one of a plurality of image types;

selecting means for selecting a recording mode from among a first recording mode for recording the image on a recording material at a predetermined recording density, and a second recording mode for recording the image on the recording material at a recording density lower than that of the first recording mode;

determining means for determining if the input image is a predetermined image type; and

control means for changing to the first recording mode, when the second recording mode is selected by said selecting means and said determining means determines that the input image is the predetermined image type.
2. (Currently Amended) An image processing apparatus according to Claim 1, further comprising a recording means for recording the image in ~~one of~~ the first recording mode ~~and or~~ the second recording mode.

3. (Original) An image processing apparatus according to Claim 1, wherein said input means inputs one-pixel binary image data.

4. (Original) An image processing apparatus according to Claim 1, wherein the second recording mode is for decimating and recording the input image.

5. (Original) An image processing apparatus according to Claim 3, wherein said input means inputs one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

6. (Currently Amended) An image processing apparatus according to Claim 1, wherein the predetermined image type is a color image, and said determining means determines whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image; and

said control means changes to the first recording mode, when the second recording mode is selected by said selecting means, and said determining means determines that the input image is a color image.

7. (Currently Amended) An image processing apparatus according to Claim 1, wherein when the input image type is a monochrome image, and said determining

means determines whether the monochrome image is ~~one~~ of a character image ~~and~~ or a halftone image; and

said control means changes to the first recording mode, when the second recording mode is selected by said selecting means, and said determining means determines that the monochrome image is a halftone image.

8. (Original) An image processing apparatus according to Claim 1, wherein said input means inputs an image having a plurality of pages;

said determining means determines the image type of the input image in units of a page; and

said control means controls the recording mode in units of a page.

9. (Original) An image processing apparatus comprising:

input means for inputting an image of one of a plurality of image types;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input by said input means, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

determining means for determining if the input image is a predetermined image type; and

control means for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is the predetermined image type.

10. (Currently Amended) An image processing apparatus according to Claim 9, further comprising a recording means for recording the image in ~~one of~~ the first, second, ~~and~~ or third recording mode[[s]].

11. (Original) An image processing apparatus according to Claim 9, wherein said input means inputs one-pixel binary image data.

12. (Original) An image processing apparatus according to Claim 11, wherein said input means inputs one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

13. (Currently Amended) An image processing apparatus according to Claim 9, wherein the predetermined image type is a color image, and said determining means determines whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image; and

said control means changes to the third recording mode, when ~~one of~~ the first ~~and~~ or the second recording mode[[s]] is selected by said selecting means, and said determining means determines that the input image is a color image.

14. (Original) An image processing apparatus according to Claim 9, wherein said input means inputs an image having a plurality of pages;

said determining means determines the image type of the input image in units of a page; and

said control means controls the recording mode in units of a page.

15. (Currently Amended) An image processing apparatus comprising: input means for inputting an image of one of a plurality of image types;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input by said input means, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

determining means for determining the image type of the input image; and

control means for changing the recording mode selected by said selecting means in accordance with a determination result by said determining means;

wherein said determining means determines whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image, and if a monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and~~ or a halftone image; and

said control means changes to the second recording mode, when the first recording mode is selected by said selecting means, and said determining means determines that the monochrome image is a halftone image.

16. (Currently Amended) An image processing method comprising:

an inputting step₁ of inputting an image of one of a plurality of image types;

a selecting step₂ of selecting a recording mode from among a first recording mode for recording the image on a recording material at a predetermined recording density, and a second recording mode for recording the image on the recording material at a recording density lower than that of the first recording mode;

a determining step₃ of determining if the input image is a predetermined image type; and

a controlling step₄ of changing to the first recording mode, when the second recording mode is selected ~~[[by]]~~ in said selecting step, and said determining step determines that the input image is the predetermined image type.

17. (Currently Amended) An image processing method according to Claim 16, further comprising a recording step_a of recording the image in ~~one of the first and~~ or the second recording mode[[s]].

18. (Currently Amended) An image processing method according to Claim 16, wherein said inputting step ~~inputs~~ includes inputting one-pixel binary image data.

19. (Original) An image processing method according to Claim 16, wherein the second recording mode is for decimating and recording the input image.

20. (Currently Amended) An image processing method according to Claim 18, wherein said inputting step ~~inputs one of~~ includes inputting binary data received from another communication apparatus ~~and or~~ binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

21. (Currently Amended) An image processing method according to Claim 16, wherein the predetermined image type is a color image, and said determining step ~~determines~~ includes determining whether the input image is ~~one of~~ a monochrome image ~~and or~~ a color image; and

said controlling step ~~changes~~ includes changing to the first recording mode, when the second recording mode is selected ~~[[by]]~~ in said selecting step, and it is determined in said determining step ~~determines~~ that the input image type is a color image.

22. (Currently Amended) An image processing method according to Claim 16, wherein the input image type is a monochrome image, and said determining step ~~determines~~ includes determining whether the monochrome image is ~~one of~~ a character image ~~and or~~ or a halftone image; and

said controlling step ~~changes~~ include changing to the first recording mode, when the second. recording mode is selected ~~[[by]]~~ in said selecting step, and it is determined in said determining step ~~determines~~ that the monochrome image is a halftone image.

23. (Currently Amended) An image processing method according to Claim 16, wherein:

said inputting step ~~inputs~~ includes inputting an image having a plurality of pages;

said determining step ~~determines~~ includes determining the image type of the input image in units of a page; and

said controlling step ~~controls~~ includes controlling the recording mode in units of a page.

24. (Currently Amended) An image processing method comprising:
an inputting step₁ of inputting an image of one of a plurality of image types;
a selecting step₁ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said inputting step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said inputting step without decimating the image;
a determining step₁ of determining if the image is a predetermined image type; and
a controlling step₁ of changing to the third recording mode, when one of the first and second recording modes is selected [[by]] in said selecting step, and it is determined in said determining step ~~determines~~ that the input image is the predetermined image type.

25. (Currently Amended) An image processing method according to Claim 24, further comprising a recording step₂ of recording the image in ~~one of~~ the first, second, ~~and~~ or third recording mode[[s]].

26. (Currently Amended) An image processing method according to Claim 24, wherein said inputting step ~~inputs~~ includes inputting one-pixel binary image data.

27. (Currently Amended) An image processing method according to Claim 26, wherein said inputting step ~~inputs one of~~ includes inputting binary data received from another communication apparatus ~~and or~~ binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

28. (Currently Amended) An image processing method according to Claim 24, wherein the predetermined image type is a color image, and said determining step ~~determines~~ includes determining whether the input image is one of a monochrome image and a color image; and

said controlling step ~~changes~~ includes changing to the third recording mode, when one of the first and second recording modes is selected ~~[[by]]~~ in said selecting step, and it is determined in said determining step ~~determines~~ that the input image is a color image.

29. (Currently Amended) An image processing method according to Claim 24, wherein;

said inputting step ~~inputs~~ includes inputting an image having a plurality of pages;

said determining step ~~determines~~ includes determining the image type of the input image in units of a page; and

said controlling step ~~controls~~ includes controlling the recording mode in units of a page.

30. (Currently Amended) An image processing method comprising:
an inputting step₁ of inputting an image of one of a plurality of image types;

a selecting step₂ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said inputting step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said inputting step on the recording material without decimating the image;

a determining step₃ of determining the image type of the input image;
and

a controlling step₄ of changing the recording mode selected [[by]] in said selecting step in accordance with a determination result [[by]] obtained in said determining step₃;

wherein said determining step ~~determines~~ includes determining whether the input image is ~~one of~~ a monochrome image ~~and or~~ a color image, and if a

monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and or~~ a halftone image_{[[;]]}, and

wherein said controlling step ~~changes~~ includes changing to the second recording mode, when the first recording mode is selected _{[[by]]} in said selecting step, and it is determined said determining step ~~determines~~ that the monochrome image is a halftone image.

31. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image of one of a plurality of image types;

a selecting step₂ of selecting a recording mode from among a first recording mode for recording the image on a recording material at a predetermined recording density, and a second recording mode for recording the image on the recording material at a recording density lower than that of the first recording mode;

a determining step₃ of determining if the input image is a predetermined image type; and

a controlling step₄ of changing to the first recording mode, when the second recording mode is selected _{[[by]]} in said selecting step, and it is determined in said determining step ~~determines~~ that the input image is the predetermined image type.

35. (Currently Amended) A computer readable medium according to Claim 33, wherein said inputting step ~~inputs~~ includes inputting one of binary data received from another communication apparatus and binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

36. (Currently Amended) A computer readable medium according to Claim 31, wherein the predetermined image type is a color image, and said determining step ~~determines~~ includes determining whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image; and

said controlling step ~~changes~~ includes changing to the first recording mode, when the second recording mode is selected ~~[[by]]~~ in said selecting step, and it is determined in said determining step ~~determines~~ that the input image type is a color image.

37. (Currently Amended) A computer readable medium according to Claim 31, wherein the input image type is a monochrome image, and said determining step ~~determines~~ includes determining whether the monochrome image is ~~one of~~ a character image ~~and~~ or a halftone image; and

said controlling step ~~changes~~ includes changing to the first recording mode, when the second recording mode is selected ~~[[by]]~~ in said selecting step, and it is determined in said determining step ~~determines~~ that the monochrome image is a halftone image.

38. (Currently Amended) A computer readable medium according to Claim 31, wherein:

said inputting step ~~inputs~~ includes inputting an image having a plurality of pages;

said determining step ~~determines~~ includes determining the image type of the input image in units of a page; and

said controlling step ~~controls~~ includes controlling the recording mode in units of a page.

39. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image of one of a plurality of image types;

a selecting step₁ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said inputting step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said inputting step without decimating the image;

a determining step₁ of determining if the image is a predetermined image type; and

a controlling step₂ of changing to the third recording mode, when one of the first and second recording modes is selected [[by]] in said selecting step, and it is determined in said determining step ~~determines~~ that the input image is the predetermined image type.

40. (Currently Amended) A computer readable medium according to Claim 39, further comprising a recording step₂ of recording the image in ~~one of~~ the first, second, ~~and~~ or third recording mode_{[[s]]}.

41. (Currently Amended) A computer readable medium according to Claim 39, wherein said inputting step ~~inputs~~ includes inputting one-pixel binary image data.

42. (Currently Amended) A computer readable medium according to Claim 39, wherein said inputting step ~~inputs one of~~ includes inputting binary data received from another communication apparatus ~~and~~ or binary data obtained by binarizing multi-valued image data obtained by reading a subject copy.

43. (Currently Amended) A computer readable medium according to Claim 39, wherein the predetermined image type is a color image, and said determining step ~~determines~~ includes determining whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image; and

said controlling step ~~changes~~ includes changing to the third recording mode, when ~~one of~~ the first ~~and or the~~ second recording mode[[s]] is selected [[by]] in said selecting step, and it is determined in said determining step ~~determines~~ that the input image is a color image.

44. (Currently Amended) A computer readable medium according to Claim 39, wherein:

said inputting step ~~inputs~~ include inputting an image having a plurality of pages;

said determining step ~~determines~~ includes determining the image type of the input image in units of a page; and

said controlling step ~~controls~~ includes controlling the recording mode in units of a page.

45. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image of one of a plurality of image types;

a selecting step₁ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said inputting step, decimating the

image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said inputting step on the recording material without decimating the image;

a determining step₂ of determining the image type of the input image; and

a controlling step₂ of changing the recording mode selected [[by]] in said selecting step in accordance with a determination result [[by]] obtained in said determining step₁;

wherein said determining step ~~determines~~ includes determining whether the input image is ~~one of~~ a monochrome image ~~and or~~ a color image, and if a monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and or~~ a halftone image₁; and

wherein said controlling step ~~changes~~ includes changing to the second recording mode, when the first recording mode is selected [[by]] in said selecting step, and it is determined in said determining step ~~determines~~ that the monochrome image is a halftone image.

46. (Currently Amended) An image processing apparatus comprising:

input means for inputting an image ~~of one of~~ that is a color image ~~and or~~ a monochrome image;

selecting means for selecting a recording mode from among a normal recording mode for recording the image on a recording material at a predetermined

recording density, and a decimation recording mode for recording the image on the recording material at a recording density lower than that of the normal recording mode;

determining means for determining if the input image is a color image or a monochrome image; and

control means for changing to the normal recording mode, when the decimation recording mode is selected by said selecting means and said determining means determines that the input image is a color image.

47. (Currently Amended) An image processing apparatus comprising:

input means for inputting an image ~~of one of~~ that is a color image ~~and~~ or a monochrome image;

selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input by said input means, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

determining means for determining if the input image is a color image or a monochrome image; and

control means for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is a color image.

48. (Currently Amended) An image processing apparatus comprising:
input means for inputting an image ~~of one of~~ that is a color image ~~and or~~ or a monochrome image;
selecting means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said inputting step means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input by said inputting step means, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input by said inputting step means on the recording material without decimating the image;
determining means for determining whether the input image is ~~one of~~ a monochrome image ~~and or~~ or a color image, and if a monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and or~~ or a halftone image; and
control means for changing to the second recording mode, when the first recording mode is selected by said selecting means, and said determining step means determines that the monochrome image is a halftone image.

49. (Currently Amended) An image processing method comprising:
an inputting step₁ of inputting an image ~~of one of~~ that is a color image ~~and or~~ or a monochrome image;
a selecting step₂ of selecting a recording mode from among a normal recording mode for recording the image on a recording material at a predetermined

recording density, and a decimation recording mode for recording the image on the recording material at a recording density lower than that of the normal recording mode;

a determining step₁ of determining if the input image is a color image or a monochrome image; and

a controlling step₂ of changing to the normal recording mode, when the decimation recording mode is selected ~~[[by]]~~ in said selecting ~~means~~ step and it is determined in said determining ~~means~~ determines step that the input image is a color image.

50. (Currently Amended) An image processing apparatus comprising:

~~[[an]]~~ inputting ~~step of~~ means for inputting an image ~~of one of that is~~ a color image ~~and~~ or a monochrome image;

~~[[a]]~~ selecting ~~step of~~ means for selecting a recording mode from among a first recording mode for unconditionally decimating the image input by said input means and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input by said input means, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input by said input means on the recording material without decimating the image;

~~[[a]]~~ determining ~~step of~~ means for determining if the input image is a color image or a monochrome image; and

[[a]] controlling ~~step of~~ means for changing to the third recording mode, when one of the first and second recording modes is selected by said selecting means, and said determining means determines that the input image is a color image.

51. (Currently Amended) An image processing method comprising:
an inputting step₁ of inputting an image ~~of one of~~ that is a color image ~~and or~~
a monochrome image;

a selecting step₂ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said inputting step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said inputting step on the recording material without decimating the image;

a determining step of determining whether the input image is ~~one of~~ a monochrome image ~~and or~~ a color image, and if a monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and or~~ a halftone image; and

a controlling step₃ of changing to the second recording mode, when the first recording mode is selected [[by]] in said selecting ~~means~~ step, and it is determined in said determining step ~~determines~~ that the monochrome image is a halftone image.

52. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image ~~of one of~~ that is a color image ~~and or~~ a monochrome image;

a selecting step₂ of selecting a recording mode from among a normal recording mode for recording the image on a recording material at a predetermined recording density, and a decimation recording mode for recording the image on the recording material at a recording density lower than that of the normal recording mode;

a determining step₃ of determining if the input image is a color image or a monochrome image; and

a controlling step₄ of changing to the normal recording mode, when the decimation recording mode is selected ~~[[by]]~~ in said selecting ~~means~~ step and it is determined in said determining ~~means-determines~~ step that the input image is a color image.

53. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image ~~of one of~~ that is a color image ~~and or~~ a monochrome image;

a selecting step₁ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said input means step and recording the image on a recording material, a second recording mode for referring to images of pixels surrounding the image input [[by]] in said input means step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input [[by]] in said input means step on the recording material without decimating the image;

a determining step₂ of determining if the input image is a color image or a monochrome image; and

a controlling step₃ of changing to the third recording mode, when one of the first and second recording modes is selected [[by]] in said selecting means step, and it is determined in said determining ~~means determines~~ step that the input image is a color image.

54. (Currently Amended) A computer readable medium having recorded thereon codes for implementing a computer implementable image processing method comprising:

an inputting step₁ of inputting an image ~~of one of that is~~ a color image and or a monochrome image;

a selecting step₂ of selecting a recording mode from among a first recording mode for unconditionally decimating the image input [[by]] in said inputting step and recording the image on a recording material, a second recording mode for referring to

images of pixels surrounding the image input ~~[[by]]~~ in said inputting step, decimating the image, and recording the image on the recording material, and a third recording mode for recording the image input ~~[[by]]~~ in said inputting step on the recording material without decimating the image;

a determining step₂ of determining whether the input image is ~~one of~~ a monochrome image ~~and~~ or a color image, and if a monochrome image, whether the monochrome image is ~~one of~~ a character image ~~and~~ or a halftone image; and

a controlling step₃ of changing to the second recording mode, when the first recording mode is selected ~~[[by]]~~ in said selecting ~~means~~ step, and it is determined in said determining step ~~determines~~ that the monochrome image is a halftone image.